WATER RESOURCES COMMISSION

THEME ADDRESS

THE GLOBAL CLIMATE CHANGE: A CHALLENGE TO THE WASH SECTOR IN GHANA

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Introduction

- Climate change:
  - Is one of the major drivers of global change with a profound effect on sustainable development
  - Through water as the primary medium influences earth's ecosystem and the livelihood and well-being of societies.
  - Impacts on drinking water and sanitation services and the scope for adaptation have received little attention.
  - Should be considered and treated as one of the external factors that can have an intense direct or indirect consequence on WASH services delivery.

PERSPECTIVES OF CLIMATE CHANGE: CURRENT STATE OF KNOWLEDGE (1)

"Observational records and climate projections provide abundant evidence that freshwater resources are vulnerable and have the potential to be strongly impacted by climate change, with wide ranging consequences for human societies and eco-systems" (IPCC, 2008)

- Increase and decrease in precipitation;
- Annual average river runoff and water availability projected to increase;
- Increased precipitation intensity and variability projected to increase risks of flooding and drought;
- Decrease in water resources due to climate change;
- Higher water temperatures and changes in extremes projected to affect water quality and worsen many forms of water pollution

PERSPECTIVES OF CLIMATE CHANGE: CURRENT STATE OF KNOWLEDGE (2)

- Water management cannot satisfactorily cope with current climate variability; large flood and drought damages may occur;
- Water demand will grow in the coming decades
- Flooding are due also to population growth, urbanization and land use changes;
- Climate change will influence human health by impacting the nutritional health status; and
- Drought has indirect consequences on sanitation through the spread of disease.

PERSPECTIVES OF CLIMATE CHANGE: CURRENT STATE OF KNOWLEDGE (3)

- Available knowledge seem to be quite complex and suggest some degree of uncertainty.
- In the science of climate in West Africa some models project dry conditions for the future, while others project wet conditions.
- Essence of available knowledge in climate change mean to the WASH sector
  - Long-term impacts of climate change regarding the demands of and threats to water resources should be of great concern to the WASH sector.
  - Uncertainties in the knowledge on climate change do not necessarily mean that the knowledge is erroneous or inexact and should not be a reason for inaction.
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PERSPECTIVES OF CLIMATE CHANGE: CURRENT STATE OF KNOWLEDGE (4)

- WASH sector and all water practitioners should be keenly involved in climate change research and consider it as a manageable issue

'The uncertainty in the knowledge on climate change does not imply that the knowledge is inaccurate or incorrect. What is key is for water practitioners to understand the perspectives from which scientists and other experts on climate change are speaking and to present climate change as a manageable problem' *Joyeeta Gupta (2009).*

IMPACTS OF CLIMATE CHANGE ON WASH SERVICE DELIVERY (1)

- Potential impacts of climate change, both direct and indirect, is disaggregated under four components of a water supply and sanitation system
  - Resources i.e. water sources
  - Infrastructure
  - Demand
  - Access

Resources (Water Sources)

- Increased precipitation intensity and variability would increase the risks of flooding and drought in many areas;
- Effect of higher water temperatures - increase in incidence of many water-borne diseases;
- Water scarcity may lead to the spread of disease because of inadequate sanitation and hygiene

IMPACTS OF CLIMATE CHANGE ON WASH SERVICE DELIVERY (2)

- Land use change affecting hydrology at local & basin scales;
- Increases in groundwater pollution from natural contaminants to occur in areas of groundwater-level decline.

Infrastructure

- Major investments needed to:
  - Increase the capacity of storage, supply and treatment systems and expand sanitation facilities;
  - Supply WASH services to people migrating from flooded areas or areas of absolute water scarcity;
- Destruction of WASH infrastructure and contamination of groundwater occur as a result of localized flooding;
- Major increases in the operating costs of WASH systems;
- High levels of expenditure on WASH infrastructure to meet.

IMPACTS OF CLIMATE CHANGE ON WASH SERVICE DELIVERY (3)

Demand

- Prolonged droughts and increasing temperatures, would contribute significantly to increased demand for safe water;
- Increased demand for irrigation to increase the competition between WASH and agricultural sectors;
- Increased concerns over maintenance of ecological flows and protection of habitats;
- Challenges of water treatment and sewage disposal would be compounded.

IMPACTS OF CLIMATE CHANGE ON WASH SERVICE DELIVERY (4)

Access

- Increasing challenge of ensuring access to WASH services;
- Major challenge in WASH service provision to poor and vulnerable social groups, especially in areas affected by flooding;
- Poor would increasingly rely on unregulated provision of water services;
- Reduced or little access to safe sanitation after floods and droughts and personal hygiene may compromise basic human health; and
- Possible difficulty of protecting the rights of individuals or community to access water for different uses.

THE CHALLENGE OF GLOBAL CLIMATE CHANGE TO THE WASH SECTOR

- Climate change potential impact on components of the water supply system and uncertainty of the impacts are enough challenges to the WASH sector.

- Need to adjust and develop diverse but well coordinated strategies to mitigate or adapt to the new conditions.

- The fundamental challenge would be the development of *water governance systems* to ensure that strategies are based on a solid understanding of the impacts of climate change on WASH services delivery systems.

PREPARING TO MEET THE CHALLENGES

- First step - interact regularly with climate scientists and in relevant research programs
- Next Step - examine the status of water and sanitation governance in relation to climate change impacts and adaptation.
  - How are existing institutions structured and managed to be adaptive enough to integrate planning and take action on uncertain climate change impacts?
  - Any clear-cut climate change policy framework tailored specifically for the WASH sector?
  - Regulatory systems aimed at protecting and improving water and sanitation delivery?
  - Are there identified practices that build resilience to climate change, consider the gender dimensions, and the participation of civil society?

THE WAY FORWARD

Improving WASH governance systems:

Suggested target areas of improving WASH governance system are:

- advancing policy direction towards the WASH sector,
- redefining stakeholder dialogue and looking beyond water,
- evidence based decision-making, and
- adapting to change.

Adopting and implementing IWRM:

Align plans across the water sector and other sectors that have an influence on water supply and demand for WASH services.

Adopting the principles of adaptive management:

- Under climate change there can hardly be sufficient information to reach 'optimum' decision.
- Put efforts into flexible 'adaptive' approaches with strong monitoring and information management systems.

THE WAY FORWARD

Strengthening WASH sector capacity:

Targeted awareness campaign that is informative and recognize climate change as an uncertain challenge faced by WASH professionals

Develop and implement targeted capacity strengthening programs that are appropriate to WASH professionals.

Building Information knowledge systems:

Better quality and access to information.

Develop an information knowledge system (consider both scientific knowledge and potential of local knowledge systems).

Additional and Innovative Financing:

Increased and innovative investment and financing such as private ventures, risk insurance, etc.

Networking:

Establish a climate change thematic network within the WASH sector

CONCLUSIONS

- Great deal of uncertainty in climate change predictions manifest as a governance and management challenge to the WASH sector.
- Gear action towards improving WASH governance in tackling more immediate WASH challenges in the face of climate change.
- WASH professions ought not stick their heads in the sand!
  - Be more involved in the climate change discourse,
  - Seek and have access to relevant information
  - Be also a provider of information, where feasible
  - Shape better-informed decisions and solutions.

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THANK YOU